

RES-DCVC60-480 EV DC FAST CHARGING POWER CONVERSION SYSTEM (PCS) DATASHEET

Medium- and Heavy-Duty Electric Vehicles (EVs) Require More From Their Chargers

Today's medium- and heavy-duty (M/HD) EVs can have storage capacities from 150kWh to over 600kWh. These vehicles need charging systems that have been designed to continuously supply high rates of clean, reliable DC power (60kW to 125kW) on a continuous basis. At Rhombus, we are experts in the design of high-power electrical systems with exceptional reliability and maintainability for the most demanding applications. We have deployed thousands of our units which are proudly **designed and manufactured in the USA**, with near-zero failure rates.

Solutions That Are Expert-Engineered for V2X-Capable EV Charging

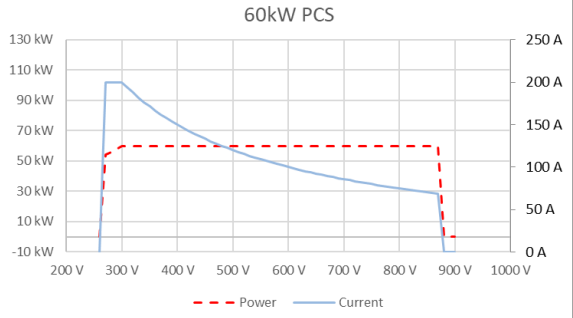
The utility grid's resilience is constantly being challenged, from both weather events and peak loads. Vehicle to grid (V2G) provides the ability to offset peak loads by offering/selling excess vehicle power back to the grid, reducing total energy costs. Vehicle to building (V2B) enables vehicle energy to power critical building circuits during power outages, improving overall site power resilience. Rhombus charging solutions are UL 1741-SA certified, simplifying fleet operator deployment of V2X-capable charging systems for the M/HD EV fleets.



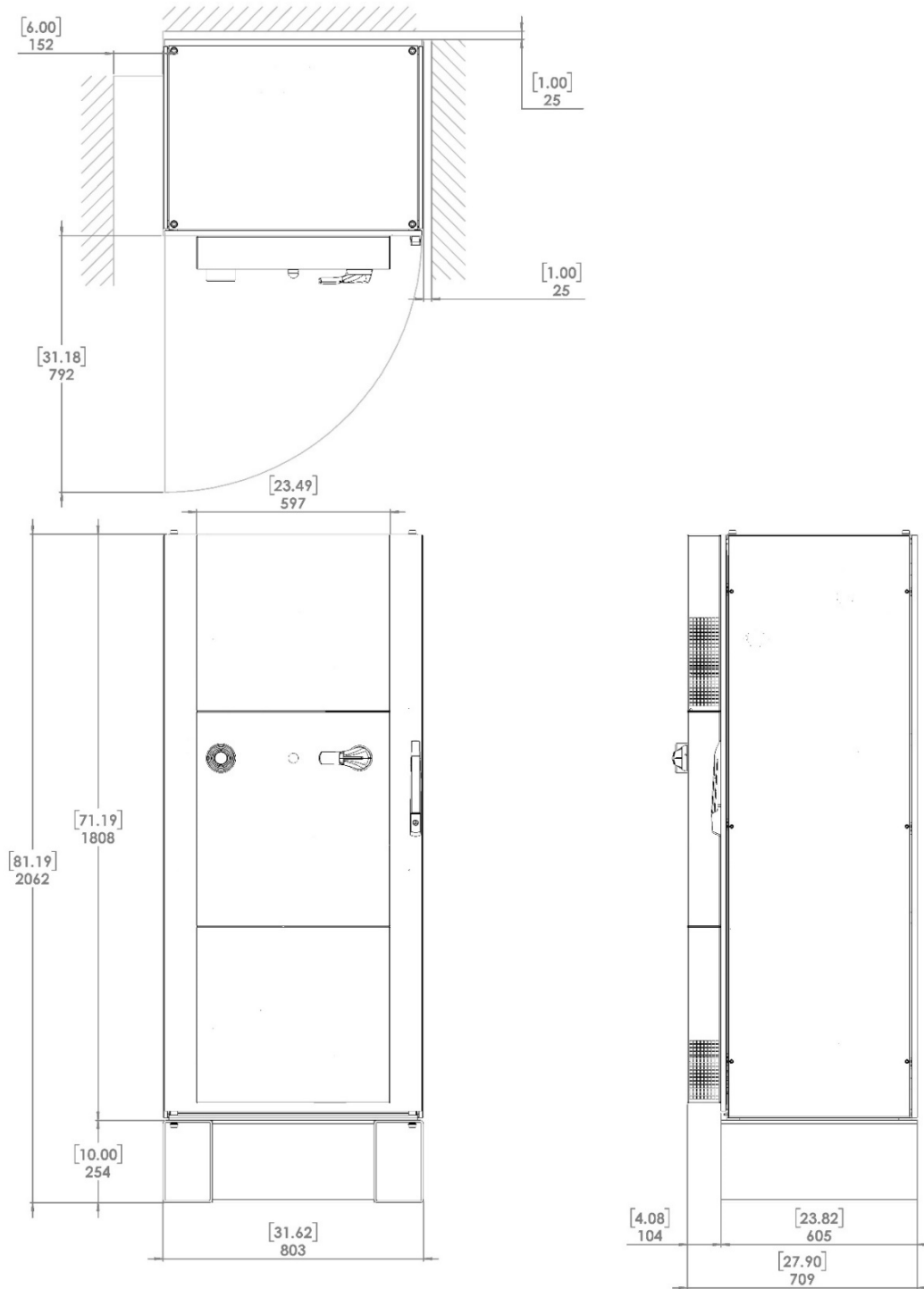
And If Your Fleet Only Needs Unidirectional Capabilities, Rhombus Is Still Your Best Option

At Rhombus, we also apply our high-power expertise to the design of our unidirectional DC fast charging solutions for M/HD EV fleets such as school buses, public transit buses, delivery vehicles, refuse trucks, and drayage tractors. Our EV charging solutions are designed specifically for continuous operation at rated loads. These systems are also designed to support the unique needs of EV fleet operators, including the ability to remotely locate the small footprint EV charging dispenser up to 600 feet away from the charger PCS. This allows for optimal site placement in a high density vehicle yards when considering utility power feeds and high density parking.



Model	RES-DCVC60-480-V2G and RES-DCVC60-480
<p style="text-align: center;">Power Profile</p>	 <p>The graph shows Power (kW) and Current (A) versus Voltage (V) for a 60kW PCS. The x-axis ranges from 200V to 1000V. The left y-axis is Power (kW) from -10 to 130. The right y-axis is Current (A) from 0 to 250. A solid blue line represents Current, and a dashed red line represents Power. Power is approximately 60 kW from 300V to 900V. Current peaks at about 200A at 300V and then decreases to about 50A at 900V.</p>
AC Specifications (Power)	
Bi-directional capable?	YES (RES-DCVC60-480-V2G); NO (RES-DCVC60-480)
Rated Power: (kW/kVA)	60
Utility Grid Voltage: (Vac)	480-3P
Max Rated Utility Current: (Aac)	+/-79A@480VAC/60Hz (V2G); 79A@480 VAC/60Hz (non-V2G)
Wiring	3 phase, WYE (L1, L2, L3, Neutral, Gnd.) or Delta (L1, L2, L3, Gnd.)
Utility Grid Frequency: (Hz)	60
Power Factor Range	ffl 0.5
THD for Linear Loads	<5%
Maximum Efficiency:	>95%
Grid Isolation	Galvanic, Integrated
DC Output	
Maximum Power (kW)	60
Voltage Operating Range: (Vdc)	270 to 870
Maximum Current: (Adc)	+/-200A (V2G Mode), +200A (non-V2G); Charging cable limited
Connector and Cable	CCS 1, Up to 8m (25ft)
Energy Metering	
AC Energy Meter (Option) / Req. for V2G	+/-1% from 10% to full scale
Mechanical	
PCS Dimensions	31.5"W x 24.5"D x 82"H
PCS Weight	1600 lbs.
Environmental	
Cooling	Air cooled
Environmental Rating	NEMA 3R
Operating Ambient Temp.	-20 °C to 45 °C (-4 to 113°F)
Storage Temperature Range	-30 °C to 60 °C (-22 to 140°F)
Humidity	0 to 95% (non-condensing)
Altitude	De-rated over 2,000m above sea level
Communication & Control	
Local Control	Modbus RTU/CAN
External Control & Management	Rhombus VectorStat® for enhanced diagnostic and energy management.
Certification, Safety, Compliance	
Certifications	UL 2202, CSA22.2, IEEE 1547.1, UL1741-SA
Compatibility (Max Dispensers to PCS ratio)	
PCS Compatible with Dispenser Model:	RES-D2-CS20 (1:1) or RES-D2-CS20-V2G (1:1) RES-D3-CS20 (5:1) or RES D3-CS20-V2G (5:1)

RES-DCVC60-480 PCS Dimensions



All specifications are configuration dependent and subject to change
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